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The Essential Role of Public Health in Preventing Disease, Prolonging Life, and Promoting Health of Cancer Survivors

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Cancer Survivorship as an Area of Public Health Importance

Public health's longstanding mission has been to "prevent disease, prolong life, and promote health" through organized efforts across societies, organizations, communities, and individuals.¹ The public health community has worked to achieve this mission of combating both infectious and chronic disease through research and surveillance, public health programs, health communication activities, and policy and system changes. Cancer survivorship serves as an example of the dynamic work of the public health community in addressing this issue.

In the U.S., 14.5 million men, women, and children were estimated to be living after a cancer diagnosis (cancer survivors) in 2014.² Cancer survivors routinely face physical, psychosocial, neurocognitive, spiritual, and financial challenges. The public health community has an essential role in addressing the needs of survivors and is uniquely positioned to intervene through prevention of recurrences, second cancers, and the side effects or consequences of cancer treatment to improve quality of life for each survivor.

CDC's Work in Cancer Survivorship

CDC is the Federal government's lead public health agency, which for more than a decade has employed an interdisciplinary public health approach to examine and address survivors' needs. CDC and its survivorship workgroup have conducted research, surveillance, and programmatic work aimed at improving the experiences of survivors, their family members, friends, and caregivers across the cancer continuum.

In 2004, CDC co-sponsored, with LiveStrong, the development of "A National Action Plan for Cancer Survivorship (NAPCS): Advancing Public Health Strategies."³ The NAPCS, designed with feedback from nearly 100 experts in cancer survivorship, clearly outlined goals, activities, and priorities for addressing the needs and issues faced by cancer survivors in the U.S. CDC continues to collaborate with national organizations, states, tribes,

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territories, and Pacific Island jurisdictions to address “priority needs” cited in the NAPCS.
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CDC has also addressed issues faced by cancer survivors through documentaries, museum exhibits, and national campaigns. The powerful stories of cancer survivors have been shared through the agency’s support of the award-winning production, “A Lion in the House,”^{7,8} and the acclaimed CDC museum exhibit, “Cancer Survivors in Focus,”⁹ which continues to be shown as a traveling exhibit. Awareness and education campaigns¹⁰ have also shared stories from survivors pertaining to hereditary breast cancer, breast cancer risk, family history of cancer, and breast health to educate future generations of young women at risk for early onset breast cancer.

CDC’s ongoing surveillance activities continue to contribute to population-based descriptions of the health and treatment experiences of survivors in the U.S. CDC supports state and territorial cancer registries to collect and maintain high quality data through the National Program of Cancer Registries.¹¹ Along with the National Cancer Institute’s Surveillance, Epidemiology, and End Results data, CDC’s National Program of Cancer Registries is used to collect Federal government statistics for cancer incidence, along with data on initial treatment. These data provide baseline data on cancer survivors for local comprehensive cancer control programs as well as informing applied research activities.

CDC has worked with several governmental partners to create new surveys and add questions to existing surveys to collect information that describes survivors’ needs and life experiences including the Behavioral Risk Factor Surveillance System,¹² National Health Interview Survey,¹³ and the “Experience with Cancer Survivorship Supplement” on the Medical Expenditure Panel Survey.¹⁴

CDC-led publications (e.g., book chapters, journal supplements, *Morbidity and Mortality Weekly Reports*) have also brought awareness and action related to topics including, but not limited to the health status, behaviors, and quality of life of cancer survivors; economic burden of survivorship; the uptake and utilization of cancer survivorship care plans; adherence to cancer-specific, long-term follow-up guidelines; health equity; estimating infertility among survivors; genetics; and psychosocial concerns facing survivors.¹⁵⁻²³ CDC has also leveraged inter- and intra-agency partnerships to create venues for dissemination of information (i.e., co-sponsoring and planning conferences,²⁴ previous supplement issues²⁵). Publication findings have also been used to shape research agendas, provide technical assistance to grantees and their networks, and outline opportunities for innovative approaches²⁶ to addressing the needs of cancer survivors.

CDC’s partnerships with national organizations, state health agencies, and other key groups are essential in the development, implementation, and promotion of effective cancer control practices related to cancer survivorship. CDC’s funded work and collaboration with key partners has led to the development and implementation of comprehensive cancer control plans²⁷ utilized by states, tribes and tribal organizations, territories and Pacific Island jurisdictions, and their partners to identify and act on public health priorities such as cancer survivorship. CDC’s support of the National Cancer Survivorship Resource Center²⁸ also

led to the development and distribution of a broad range of cancer survivorship informational materials addressing healthy behaviors to reduce late and long-term effects of cancer and its treatment and improve care and screening practices to detect cancer recurrence.

Supplement Overview and Corresponding Articles

The current supplement, “Addressing Cancer Survivorship Through Public Health Research, Surveillance, and Programs” offers a collection of articles highlighting CDC’s recent public health-focused research, surveillance, and programmatic work directed at cancer survivors. Articles in this volume represent a collection of work conducted by CDC and its national, state, and local partners and showcase public health approaches to improving service delivery and use of quality clinical services; addressing mental and physical healthcare needs and access to programs and interventions; increasing secondary prevention of behavioral and clinical concerns; evaluating health professional- and survivor-focused educational and resource initiatives; and providing support to those who require additional information and education regarding genetic testing, psychosocial care, and reproductive care.

To further illustrate the role of public health in cancer survivorship, Moore and colleagues²⁹ describe how CDC adapted the social ecological model, as a guide for implementing strategies across systematic and societal levels as outlined in the NAPCS.³ Smith et al.³⁰ then take a closer look at approaches to addressing health disparities and the needs of underserved and under-resourced cancer survivors. In this supplement, other authors explore the use of quality clinical services and healthcare expenses for cancer survivors. Hall and Smith³¹ examine decision making for prostate cancer treatment and promotion of active surveillance as a treatment option. Guy and colleagues³² examine the burden of out-of-pocket healthcare expenses for cancer survivors and Underwood et al.³³ examine the impact of activities implemented by five CDC-supported national comprehensive cancer control grantees. Two other manuscripts examine the mental and physical healthcare needs of young breast cancer survivors. Buchanan and colleagues³⁴ explore neurocognitive impairment after receiving chemotherapy and adjuvant treatment, while also examining factors associated with provider discussion and receipt of treatment for neurocognitive concerns. Johnson-Turbes et al.³⁵ present findings from an evaluation of two national organization’s efforts to provide psychosocial and reproductive health support to young African American breast cancer survivors.

This supplement also contains three articles focused on increasing health behaviors that will lower the risk of new and secondary cancers among colorectal cancer survivors. Hawkins and colleagues³⁶ describes colorectal cancer survivors’ awareness of U.S. Department of Agriculture dietary recommendations, current eating habits, and barriers to following recommended dietary patterns. Rodriguez and colleagues³⁷ also report on the impact of being physically active on health-related quality of life among long-term colorectal cancer survivors. An article by Ryerson et al.³⁸ describes innovative uses of the National Program of Cancer Registries infrastructure and data for comparative effectiveness and patient-centered outcomes research as a recruitment source for survivorship research studies and

behavioral interventions, as well as for the collection, consolidation, and dissemination of treatment summaries for cancer survivors and their providers. Finally, the supplement concludes with a paper by White and colleagues³⁹ highlighting findings from all articles included in this supplement from the perspective of future needs and opportunities for public health work in cancer survivorship.

This collection of articles provides an overview of CDC's recent research, surveillance, and programmatic activities over the past decade to identify and address the needs of cancer survivors in the context of public health. As the nation's lead prevention agency, CDC will continue to work with a variety of partners to improve the lives of cancer survivors and their families.

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